

WHAT IS CLAIMED, IS

1. Apparatus for reading or writing data markings (25) of an optical recording medium (1) having data markings (25) arranged along a track (20) and header markings (25') arranged laterally offset with respect to the centre of this track (20), the apparatus comprising a header identification unit (8), a header sequence detector (9), a track crossing detector (10) and an intermediate track detector (11) for generating an intermediate track signal (MZC), wherein the intermediate track detector is connected to outputs of the header identification unit (8), of the track crossing detector (10) and of the header sequence detector (9).

2. Apparatus according to claim 1, characterized in that the header identification unit (8) comprises a high-frequency path (17, 18, 18', 19, 19', 28), a low-frequency path (29) and a signal detector (30, 31), and has a track error signal (PP-TE) applied to it.

3. Apparatus according to claim 1, characterized in that the header sequence detector (9) comprises envelope detectors (33, 33'), to which a track error signal (PP-TE) is fed, and whose outputs are connected to a comparator (34, 35, 36).

4. Apparatus according to claim 1, characterized in that the header sequence detector (9) has a phase detector (15, 15'), which is fed with signals (A, B, C, D) derived from detector elements (6A, 6B, 6C, 6D) of a multi-zone detector (6) of the apparatus.

5. Apparatus according to claim 1, characterized in that the track crossing detector (10) has a track error signal (PP-TE) applied to it, and comprises one of phase shifter (53) and peak value detector (37, 37', 38).

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of phase shifter (53) and peak value detector (37,37', 38).

13. Apparatus according to Claim 12, characterized  
5 in that the track crossing detector (10) comprises at  
least two peak value detectors (71, 72, 73, 74), which  
are connected as extreme value detectors.

14. Apparatus according to claim 8, characterized  
10 in that the header identification unit (8) evaluates a  
summation signal (HF) of the detector signals (A, B, C,  
D).

15 15. Method for generating an intermediate track signal (MZC) in an apparatus for writing data markings (25) of an optical recording medium (1) having data markings (25) arranged along a track (20) and header markings (25') arranged laterally offset with respect to the centre of this track, comprising the steps of

20           - checking of a signal (PP-TE/ PE) derived from  
detector elements (6A, 6B, 6C, 6D) of the apparatus for  
the presence of signal components which are typical of  
header areas (27, 27', 27''),

25 - given the presence of signal components of this type, determination of the order of signal components originating from differently arranged header markings (25'),

- generation of a signal (TC) corresponding to the track crossing frequency,

30           - generation of the intermediate track signal  
(MZC) from the order information and the signal (TC)  
corresponding to the track crossing frequency.

16. Method according to Claim 9, characterized in  
35 that the track crossing frequency (TZC) is detected,  
and, if a limit value is undershot, an invalidity  
signal (VALID) is generated, which is cancelled only  
when signal components which are typical of header  
areas (27, 27', 27'') are present once again.